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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,110	09/09/2003	Hans David Hoeg		9223

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EXAMINER
SMITH, PHILIP ROBERT

ART UNIT	PAPER NUMBER
3739	

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/657,110	HOEG ET AL.	
	Examiner	Art Unit	
	Philip R. Smith	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) *6 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Restrictions

[01] Claims 6-7 are withdrawn without traverse from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group.

Specification

[02] The abstract of the disclosure is objected to because the abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

[03] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[04] Claims 1-5 & 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al (6,241,657), patented 5 June 2001.

[05] With regard to claim 1: Chen discloses a method for improving a diagnostic or surgical procedure involving a variable direction of view endoscope with a variable line of sight comprising:

[05a] acquiring volumetric scan data of a subsurface structure ("Database means 70 comprise a data storage device or medium 150 containing one or more

3-D computer models ... of the anatomical objects 30 which are to be visualized by anatomical visualization system 10 ... Such software objects are of the sort well known in the art and may have been created, for example, through post-processing of CT or MRI scans of the patient using techniques well known in the art," 5/63-6/17);

[05b] positioning said endoscope relative to said subsurface structure; acquiring internal endoscope configuration data; establishing the position of said endoscope relative to said subsurface structure ("Endoscope tracking means 50 comprise a tracking system of the sort well known in the art. More particularly, endoscope tracking means 50 may comprise a tracking system 97 of the sort adapted to monitor the position [relative to said subsurface structure] and orientation [internal endoscope configuration data] of an object in space and to generate output signals which are representative of the position and orientation of that object ...Tracking system 97 is attached to endoscope 90 such that the output signals generated by tracking system 97 will be representative of the spatial positioning and orientation of endoscope 90," 5/3-19); and

[05c] based on said volumetric scan data (as represented by "anatomical software objects 30A', 30B' AND 30C'," 8/25-26), said endoscope position data ("first software object 90A' representative of the shaft of the endoscope 90," 7/36-40), and said internal endoscope configuration data ("second software object 90B' representative of the video image acquired by

endoscope 90," 7/41-43), displaying representations of said subsurface structure and said endoscopic line of sight in their correct relative spatial relationship ("placed into proper registration with one another using techniques well known in the art so as to form a cohesive database for the application program's image rendering software," 8/32-35).

[06] With regard to claim 2: Chen discloses the displaying of a representation of the rotational orientation of the endoscopic view (7/41-60 with reference to Fig. 11).

[07] With regard to claim 3: Chen discloses that said establishing endoscope position relative to said subsurface structure comprises:

[07a] correlating at least one endoscopic view with the corresponding region of said volumetric scan data by feature matching and identification; and computing the relative position of said endoscope and said subsurface structure using said internal endoscope configuration data for each said endoscopic view and the location of each said corresponding region obtained through said feature matching, and identification ("the anatomical visualization system 10 is arranged so that the video signals output by endoscope 90 are, after being properly transformed by video processing means 95 into the digital data format required by digital computer 130, texture mapped onto the planar surface of disk 90B'," 7/52-57).

[08] With regard to claims 4-5: Chen discloses selecting a target point or path relative to said volumetric scan data; and instructing said endoscope to direct its line of

sight towards said target point or along said path ("The application program software 140 of computer means 60 is configured so as to enable physician 20 to quickly and easily specify a particular viewing position (i.e., a "virtual camera" position in computer graphics terminology) for which the application program's image rendering software should render a visualization of the 3-D software models contained in database means 70," 9/60-66).

[09] With regard to claim 8: Chen discloses computing the regions of said subsurface structure ("90B'" as noted above) which can be viewed with said endoscope from its current position and displaying said regions.

Conclusion

[10] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Frantz (2002/0052546) discloses a flexible instrument tracking system. Mah (6,718,196) discloses a system for monitoring the position of a cannula relative to a surgical site.

[11] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R. Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm.

[12] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764.

[13] Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

[14] prs

John P. Leubecker
Primary Examiner